

a second sector of the channel region exclusive of the first sector comprising a uniform doping concentration of the first conductive type and a surface region operable under field effect as an enhancement channel;

a gate insulating layer on the substrate over at least a portion of the surface region of the first sector and the surface region of the second sector ; and

a gate on the gate insulating layer over at least a portion of the first sector and over at least a portion of the second sector.

6. The transistor of claim 5, wherein the first sector has a narrower line width than a line width of the gate.

7. (Amended) The transistor of claim 5, in which
the gate comprises a first portion over the first sector and a second portion over the second sector ; and
the first portion is in a predetermined ratio with respect to the second portion.

9. The transistor of claim 5, wherein the first sector is separated from the source region and from the drain region by substantially equal distances.